Installing the Avaya S8800 Server for Avaya Aura® Solution for Midsize Enterprise

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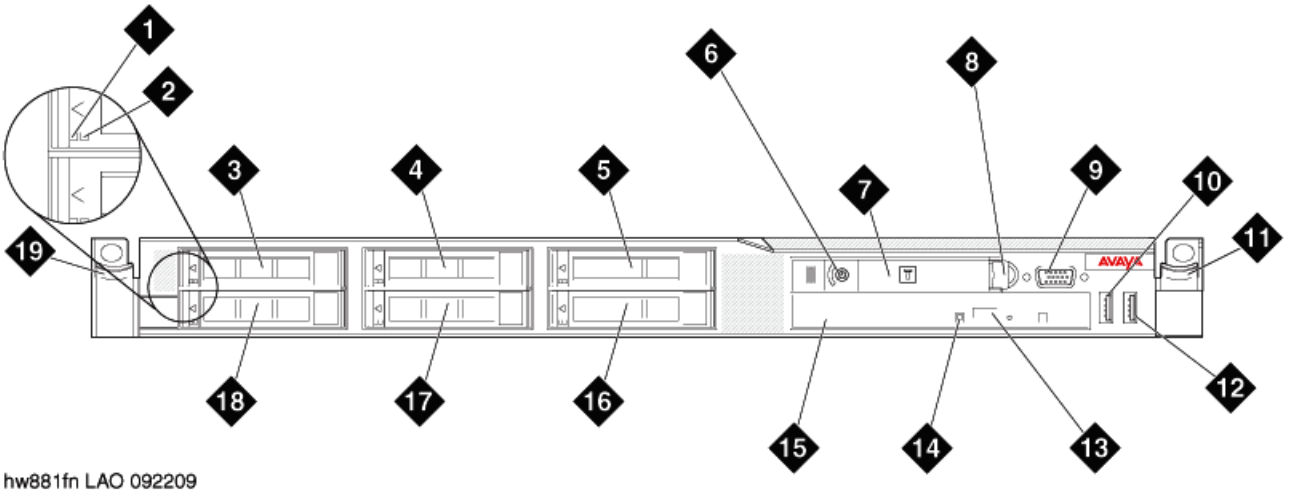
Chapter 1: Overview of the Avaya S8800 Server

Introduction

The Avaya S8800 Server supports several Avaya software applications. The server is available in a 1U model or 2U model and with various hardware components. The server model and specific hardware components in your server depend on the requirements of the software application that will run on the server.

Solution for Midsize Enterprise uses the Avaya S8800 1U Server.

Front of server

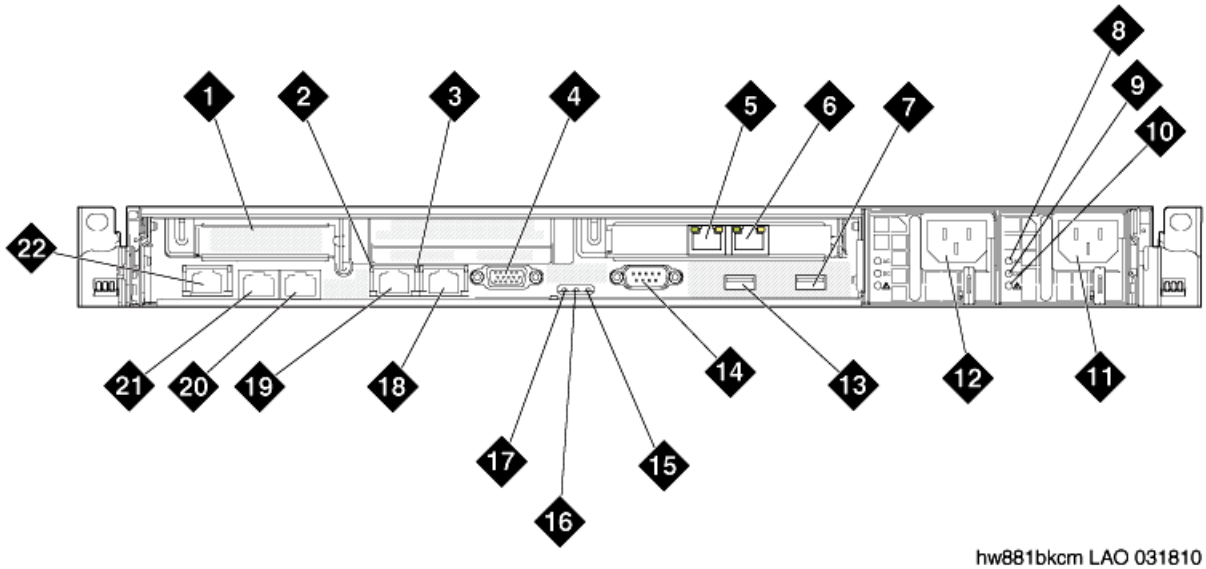


hw881fn LAO 092209

1	Hard disk drive activity LED (green)
2	Hard disk drive status LED (amber)
3	Drive bay 0
4	Drive bay 2

5	Drive bay 4
6	Power control button and LED
7	Operator information panel **Note:** The operator information panel is shown in the pushed in position.
8	Operator information panel release latch
9	Video connector
10	USB connector 1
11	Rack release latch
12	USB connector 2
13	DVD eject button
14	DVD drive activity LED
15	DVD drive
16	Drive bay 5
17	Drive bay 3
18	Drive bay 1
19	Rack release latch

Back of server



1	PCIe slot 1 (unused)
2	Ethernet activity LED
3	Ethernet link LED
4	Video connector
5	Ethernet connector 6 (eth5) Used for the Avaya Aura® Session Border Controller private interface.
6	Ethernet connector 5 (eth4) Used for the Avaya Aura® Session Border Controller public interface.
7	USB connector 4
8	AC power LED (green)
9	DC power LED (green)
10	Power supply error LED (amber)
11	Power supply 2
12	Power supply 1 (primary power supply)
13	USB connector 3
14	Serial connector
15	System error LED (amber)

16	System locator LED (blue)
17	Power LED (green)
18	Ethernet connector 2 (eth 1) (services port)
19	Ethernet connector 1 (eth 0) (Corporate LAN / processor Ethernet)
20	Ethernet connectors 4 (eth 3) Used for Application Enablement Services.
21	Ethernet connectors 3 (eth 2)
22	System management Ethernet connector (IMM)

Note:

Hardware label for Ethernet ports on the server is called Ethernet connectors. Communication Manager software refers to Ethernet ports as eth.

Server specifications

Type	Description
Dimensions	Height: 43 mm (1.69 inches, 1U) Depth: 711 mm (28 inches) Width: 440 mm (17.3 inches)
Weight	Maximum weight: 15.4 kg (34 lb.) when fully configured.
Heat output	Approximate heat output: • Minimum configuration: 662 Btu per hour (194 watts) • Maximum configuration: 1400 Btu per hour (400 watts) Heat output varies depending on the number and type of optional features that are installed and the power-management optional features that are in use.
Acoustic noise emissions	Declared sound power, operating: 6.1 bel The sound levels were measured in controlled acoustical environments according to the procedures specified by the American National Standards Institute (ANSI) S12.10 and ISO 7779 and are reported in accordance with ISO 9296. Actual sound-pressure levels in a given location might exceed the average values stated because of room reflections and other nearby noise sources. The declared sound-power levels indicate an upper limit, below which a large number of computers will operate.

Type	Description
Electrical input requirements	• Sine-wave input (47–63 Hz) required • Input voltage low range: - Minimum: 100 V AC - Maximum: 127 V AC • Input voltage high range: - Minimum: 200 V AC - Maximum: 240 V AC • Input kilovolt-amperes (kVA), approximately: - Minimum: 0.194 kVA - Maximum: 0.700 kVA
Front connectors	• Two USB • Video
Back connectors	• Six Ethernet (RJ-45 connectors). • Serial • Two USB • Video • Systems management Ethernet (IMM)

Server components

Component	Specification
Microprocessor	Dual Intel E5570 quad core processors that runs at 2.93 Ghz.
Memory	32 GB of 1333 Mhz, fully-buffered DDR-3 RDIMMs (16 2GB DIMMs): • ECC registered • Slots: 16 dual inline
Media drive	DVD-R/W SATA slimline
Hard disk drive expansion bays	Six 2.5-inch hot-swap SAS hard disk drive bays
Hard disk drive	Six 146 GB SAS 2.5" 10K RPM hard drives

Component	Specification
RAID controllers	ServeRAID-MR10i RAID SAS adapter that provides RAID level 1 or 5. Includes 256 MB cache module and battery for write cache Midsize Enterprise uses a RAID 5 configuration.
PCI expansion slots	Two PCI Express x16 Gen 2 slots: • Slot 1 contains a low profile DUAL NIC card (half height, half-length card) • Slot 2 supports full-height, half-length cards
Hot-swap fans	Six
Power supply	Redundant 675W, 12V AC power supply
Video controller	Integrated Matrox G200 (two analog ports, one front and one back, that can be connected at the same time) The maximum video resolution is 1280 x 1024 at 75 Hz. • SVGA compatible video controller • DDR2 250 MHz SDRAM video memory controller • Avocent Digital Video Compression • Video memory is not expandable

S8800 Server environmental requirements

Server status	Air temperature	Maximum Altitude	Relative humidity
Server on	10º C to 35º C (50º F to 95º F) at altitude of up to 914.4 m (3,000 feet)	2,133 m (7,000 feet)	8% to 80%
	10º C to 32º C (50º F to 90º F) at altitude of 914.4 m to 2,133 m (3,000 to 7,000 feet)		
Server off	10°C to 43°C (50.0°F to 109.4°F)	2,133 m (7,000 feet)	8% to 80%

Chapter 1: Installing the Avaya S8800 Server

Safety instructions

Use the following safety guidelines to ensure your own personal safety and to help protect your system and working environment from potential damage.

Observe the following precautions for rack stability and safety. Also refer to the rack installation documentation accompanying the rack for specific caution statements and procedures.

Systems are considered to be components in a rack. Thus, *component* refers to any system as well as to various peripherals or supporting hardware.

Danger:

- Before installing systems in a rack, install front and side stabilizers on stand-alone racks or the front stabilizer on racks that are joined to other racks. Failure to install stabilizers before installing systems in a rack could cause the rack to tip over, potentially resulting in bodily injury.
- After installing components in a rack, never pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in serious injury.
- Use caution when pressing the component rail release latches and sliding a component into or out of a rack because the slide rails can pinch your fingers.

Note:

- Your system is safety-certified as a free-standing unit and as a component for use in a rack cabinet using the customer rack kit. It is your responsibility to ensure that the final combination of system and rack complies with all applicable safety standards and local electric code requirements.
- System rack kits are intended to be installed in a rack by trained service technicians.

Important:

- Two or more people are required to install components that are 2U or larger in a rack cabinet.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.

- Make sure that the rack is level and stable before extending a component from the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Ensure that proper airflow is provided to components in the rack:
 - Do not block any air vents. Usually 15 cm (6 in.) of space provides proper airflow.
 - Install the server only in a rack cabinet with perforated doors.
 - Do not leave open spaces above or below an installed server in your rack cabinet. To help prevent damage to server components, always install a blank filler panel to cover the open space and to help ensure proper air circulation.
- Do not step on or stand on any component when servicing other components in a rack.
- Do not place any object on top of rack-mounted components.

Avaya-provided equipment

Avaya provides the following equipment:

- Server and power cord or cords
- Slide rails
- Cable management arm assembly
- Cable management arm stop bracket
- Cable management arm mounting bracket
- Cable management support arm
- Two 10–32 screws
- Four M6 screws
- Five small cable ties
- One large cable tie
- Compact flash reader, USB cable, and flashcard (for backing up files. Included when required by the product ordered.)
- Modem and USB or serial cable (for remote maintenance. Included when required by the product ordered.)
- Other hardware as ordered, such as uninterruptible power source (UPS).

Customer-provided equipment

The customer must provide the following equipment:

- Standard 19-inch four-post equipment rack that is properly installed and solidly secured. The rack must meet the following standards:
 - American National Standards Institute and Electronic Industries Association standard ANSI/EIA-310–D-92.
 - International Electrotechnical Commission standard IEC 297
 - Deutsche Industrie Norm standard DIN 41494
- Screws that come with the racks for installing the rails
- #2 cross-point (Phillips) screwdriver or 3/8 inch flathead screwdriver
- USB keyboard, USB mouse, and monitor must be available on the site for advanced installation or troubleshooting.
- Power from a nonswitched electrical outlet
- Access to the network

Clearance requirements

Install the server in a rack that meets the following requirements:

- Minimum depth of 70 mm (2.76 inches) between the front mounting flange and inside of the front door if the server is installed in a cabinet.
- Minimum depth of 157 mm (6.18 inches) between the rear mounting flange and inside of the rear door if the server is installed in a cabinet.
- Minimum depth of 718 mm (28.27 inches) and maximum depth of 762 mm (30 inches) between the front and rear mounting flanges to support the use of the cable-management arm.

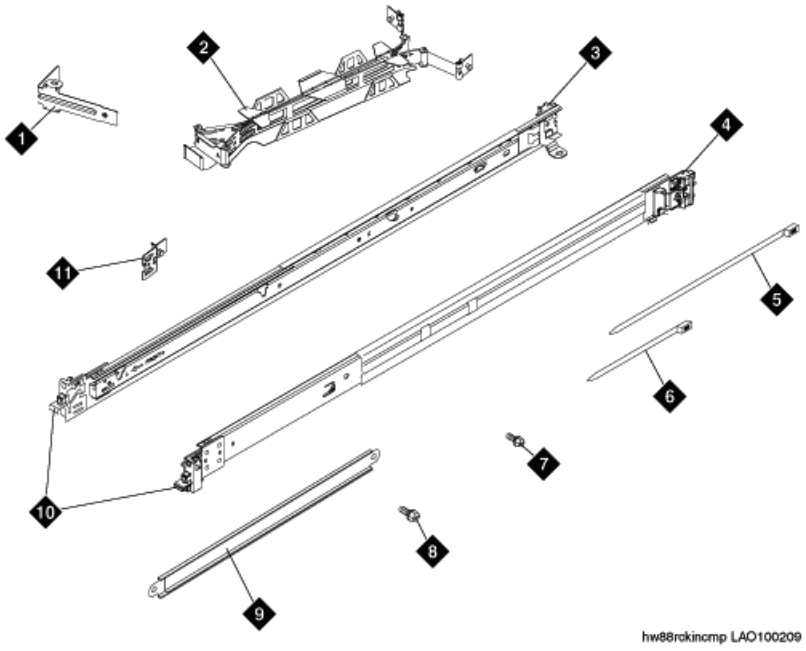
Server installation checklist

No.	Task	Notes	✔
1	Verify that all equipment is on site.	Compare the list of items that were ordered to the contents of the boxes. Use the inventory list provided by your project manager. Do not rely on the packing slips inside the boxes for the correct information.	
2	Verify that the rack is installed according to the manufacturer's instructions and in accordance with all local codes and laws.		
3	Verify that the rack is grounded in accordance with local electrical code.	See *Approved Grounds* (555–245–772), available at http://support.avaya.com.	
4	Remove the cabinet doors, if necessary.	See the cabinet manufacturer's documentation.	
7	Attaching the rails to the rack on page 18		
8	Installing the server in the rack on page 19		
	Installing the cable management arm on page 21 (optional)		
9	Replace the cabinet doors, if necessary.	See the cabinet manufacturer's documentation.	
10	Turning on the server on page 24		
11	Troubleshoot the installation.		

Installing the Avaya S8800 Server

Rack installation components

The following figure shows the items that you need to install the server in the rack cabinet.



1	Cable-management arm stop bracket (1)
2	Cable-management arm assembly
3	Slide rail (left)
4	Slide rail (right)
5	Large cable tie (1)
6	Cable ties (5)
7	M6 screws (4)
8	10–32 screws (2)
9	Cable-management support arm
10	Front of rails
11	Cable-management arm mounting bracket (1)

Attaching the rails to the rack

Prerequisites

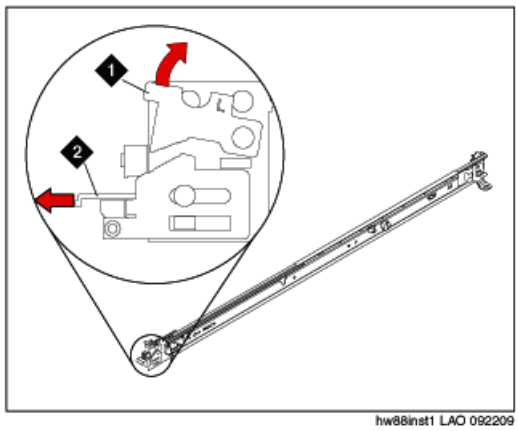
If the slide rails in your rack installation kit came with thumbscrews installed, remove them before you begin the following installation procedure.

Each slide rail is marked with either an R (right) or an L (left).

Important:

The slide rails that come with the server are compatible with standard 19-inch, 4-post racks that have *square* holes. If you are installing the server in any other type of rack, Avaya requires that the customer provide the appropriate rails or shelf for their rack. Rack Solutions has numerous rail kits and shelf options. See http://rs.innovationfirst.com/ibm-x3x50-m2-slide-rail-kit.shtml. This slide rail kit or a shelf would replace the Avaya-supplied slide rail kit that ships with the server .

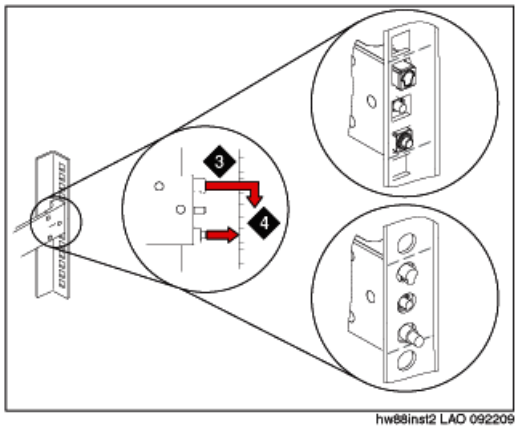
1. Select one of the slide rails and push up on the front moveable tab (1). See the following figure.



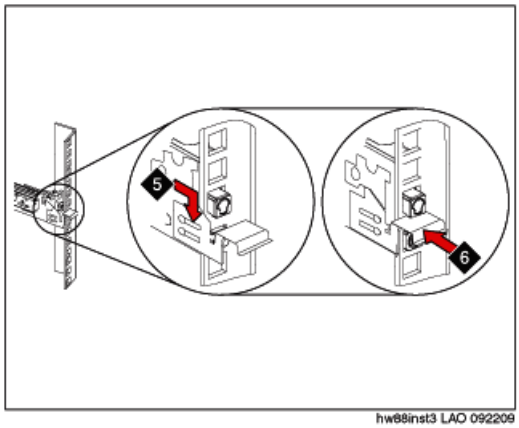
2. Pull out the front latch (2) to slide out the front side rail. See the preceding figure.
3. From the front of the rack, line up the three pins on the rear of the slide rail with the three holes in the selected U on the rear of the rack. Push the rails so that the pins go into the holes (3). See the following figure.

Important:

When you install a 2U server, be sure to install the slide rails in the bottom U of the 2U area in the rack.



4. Drop the slide rail down (4) until it latches into place. See the preceding figure.
5. Pull the slide rail forward, and insert the two pins (5) on the front of the rail into the two lower holes in the U on the front of the rack. See the following figure. Drop the rail into place until it clicks.



6. Push the front latch (6) in all the way. See the preceding figure.
7. Repeat this procedure to install the other rail onto the rack.
8. Make sure that each front latch is fully engaged.

Next steps

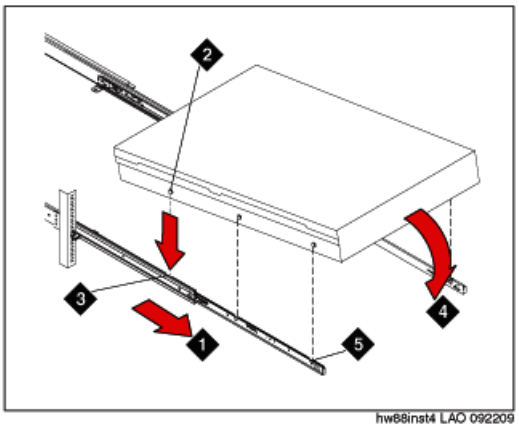
Install the server in the rack.

Installing the server in the rack

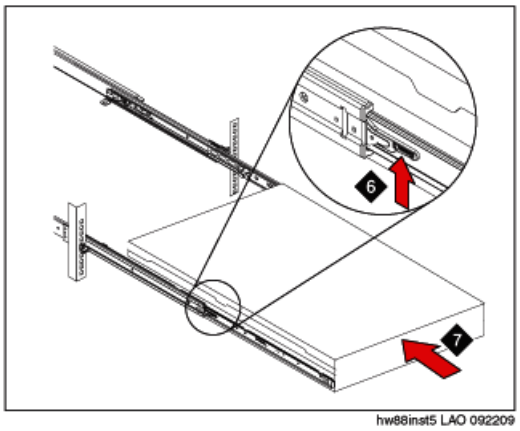
Prerequisites

Attach rails to the rack.

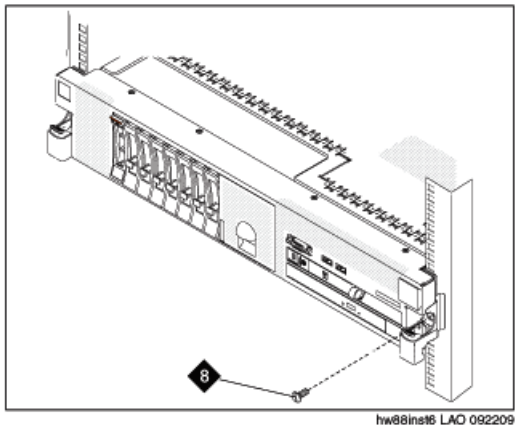
1. Pull the slide rails forward (1) until they click, two times, into place. See the following figure.



2. Carefully lift the server and tilt it into position over the slide rails so that the rear nail heads (2) on the server line up with the rear slots (3) on the slide rails. See the preceding figure.
3. Slide the server down until the rear nail heads slip into the two rear slots.
4. Slowly lower the front of the server (4) until the other nail heads slip into the other slots on the slide rails. See the preceding figure.
5. Make sure that the front latch (5) slides over the nail heads. See the preceding figure.
6. Lift the locking levers (6) on the slide rails. See the following figure.



7. Push the server (7) all the way into the rack until it clicks into place. See the preceding figure.
8. Insert the optional M6 screws (8) in the front of the server when you move the rack cabinet or if you install the rack cabinet in a vibration-prone area. See the following figure.



Next steps

Install the cable management arm if desired.

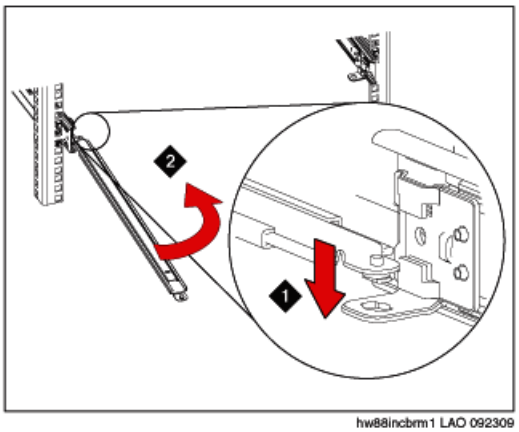
Installing the cable management arm

Prerequisites

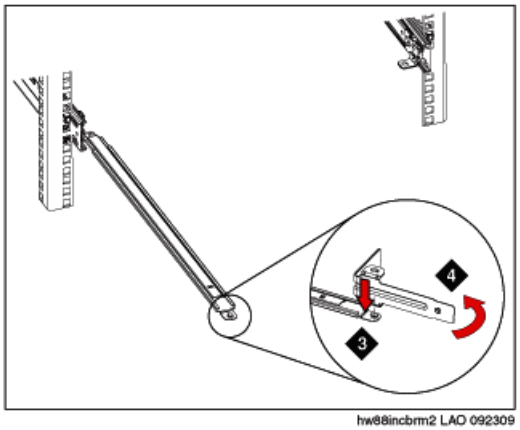
Attach rails to the rack and install the server in the rack.

The cable-management arm can be installed on either side of the server. This procedure shows it being installed on the left side. To install the cable-management arm on the right side, follow the instructions and install the hardware on the opposite side.

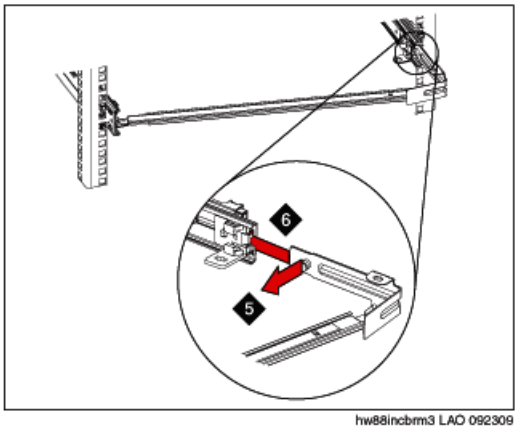
1. Connect one end of the support arm (1) to the same slide rail to which you plan to attach the cable-management arm so that you can swing the other end of the support arm (2) toward the rack. See the following figure.



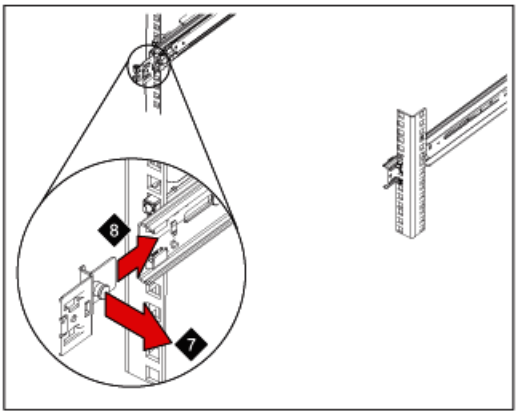
2. Install the L-shaped cable-management stop bracket (3) on the unattached end of the support arm. See the following figure



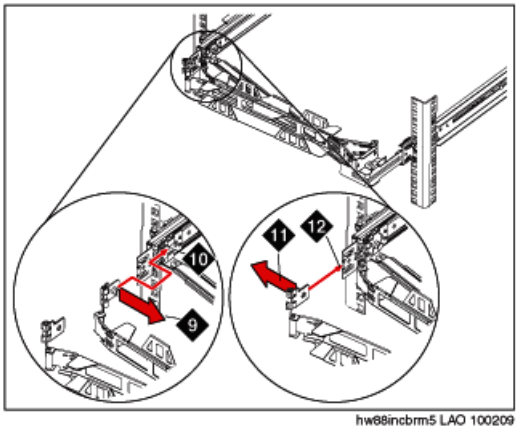
3. Turn the bracket (4) to secure it to the support arm. See the preceding figure.
4. To attach the other side of the support arm to the backside of the slide rail, pull the pin out (5), and then slide the bracket (6) into the slide rail. See the following figure.



5. Pull out the mounting bracket pin (7) and slide the mounting bracket (8) into the slide rail onto which you are installing the cable-management arm. See the following figure.



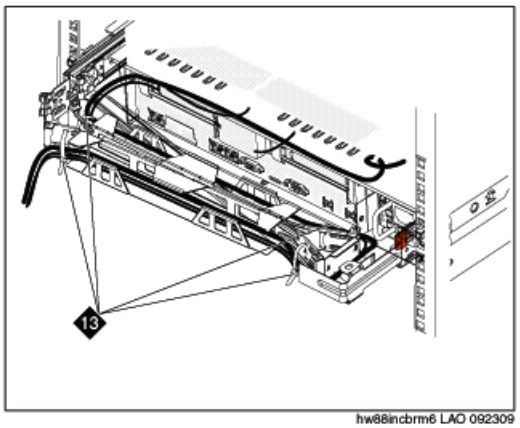
6. Push the bracket into the slide rail until the spring-loaded pin snaps into place.
7. Place the cable-management arm on the support arm.
8. Pull out the cable-management arm pin (9), and then slide the cable-management arm tab (10) into the slot on the inside of the slide rail. See the following figure.



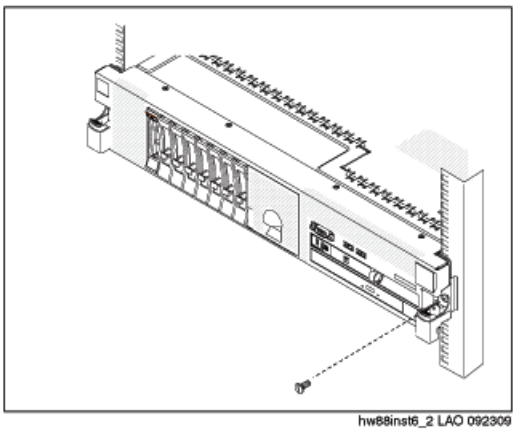
9. Push the tab until it snaps into place.
10. Pull out the other cable-management arm pin (11), and then slide that cable management arm tab into the slot (12) on the outside of the slide rail. See the preceding figure.
11. Push the tab until it snaps into place.
12. Attach the power cords and other cables to the rear of the server (including keyboard, monitor, and mouse cables, if required).
13. Route the cables and power cords on the cable-management arm (13) and secure them with cable ties or hook-and-loop fasteners. See the following figure.

Note:

Allow slack in all cables to avoid tension in the cables as the cable-management arm moves.



14. Slide the server into the rack until it snaps into place.
15. Insert the optional M6 screws in the front of the server when you move the rack cabinet or if you install the rack cabinet in a vibration-prone area. See the following figure.



Turning on the server

After the server is installed in the rack, turn on the server to make sure that it powers up properly. Once you determine that it powers up properly, turn it off before you start any software installation procedure.

Important:

You must wait for the power-on LED to blink slowly (one flash per second) before pressing the power button. If you press the power button while the power-on LED is blinking quickly (three flashes per second), the server will not turn on.

1. Plug one end of the power cord into the server power supply and the other end into a UPS or nonswitched outlet.
 Approximately 5 seconds after the server is connected to power, one or more fans might start running to provide cooling, and the power-on LED will blink quickly (three flashes per second). Approximately 3 minutes after the server is connected to power, the power-on LED will blink slowly (one flash per second), and one or more fans might start running.
2. Once the power-on LED begins to blink slowly, press the power button on the front of the server.
 The power-on LED will stop blinking and stay lit. After you press the power button, the server takes approximately 5 minutes to initialize.

Next steps

See the specific product documentation for information on installing the operating system and software.

Chapter 3: Troubleshooting the hardware installation

Avaya and customer equipment is missing

Troubleshooting steps

Contact your project manager.

The server has no power

Troubleshooting steps

- Make sure that the power cord is plugged into the back of the server and into a nonswitched outlet or UPS. If the server has a redundant power supply, make sure that power cords are plugged into both power supplies.
- If the server has a single power supply, it must be installed in power-supply bay 1. See “Back of server.”
- Make sure that the UPS is plugged into a nonswitched outlet.
- Make sure that the outlet has power.
- Push the power button on the front of the server. See Turning on the server on page 24.
- Check the power supply LEDs on the back of the server. During normal operation, the AC LED and DC LED are both lit.

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